

109TH CONGRESS
2D SESSION

S. 3714

To establish the Math and Science Teaching Corps.

IN THE SENATE OF THE UNITED STATES

JULY 24, 2006

Mr. SCHUMER introduced the following bill; which was read twice and referred
to the Committee on Health, Education, Labor, and Pensions

A BILL

To establish the Math and Science Teaching Corps.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Mathematics and
5 Science Teaching Corps Act of 2006”.

6 **SEC. 2. FINDINGS AND PURPOSES.**

7 (a) FINDINGS.—Congress finds the following:

8 (1) Mathematics and science are the bases for
9 almost every technical competence in the modern
10 marketplace, including fields as diverse as computer
11 programming, physics, engineering, manufacturing,
12 and oil exploration.

1 (2) Cultivating a workforce with strong mathe-
2 matics and science skills is necessary both to keep
3 the United States competitive in a global economy
4 and for its national security. China's long-term
5 growth rate has surpassed that of the United States
6 in the time since Chinese economic reform focused
7 on the development of science and technology.

8 (3) Secondary school students in the United
9 States rank near the bottom when compared to their
10 counterparts in other developed countries. Of the
11 Organization for Economic Cooperation and Devel-
12 opment nations participating in the 2003 Program
13 for International Student Assessment, the United
14 States ranked 24th of 29 in mathematics and 23rd
15 of 29 in science, while Korea and Japan ranked in
16 the top 5 in both categories.

17 (4) Research shows that teacher quality is the
18 most important factor in determining student
19 achievement, especially in the technical fields of
20 mathematics and science. Researchers from Penn
21 State, the Urban Institute, and the RAND Corpora-
22 tion have all found higher student achievement in
23 secondary school for those students whose teachers
24 had taken more coursework related to their subject
25 area.

1 (5) According to the Center for Teaching and
2 Policy, 38 percent of secondary school mathematics
3 classes, 28 percent of general science classes, 45 per-
4 cent of life science classes, and 60 percent of phys-
5 ical science classes are taught by individuals lacking
6 a major or a minor in such discipline.

7 (6) College graduates with strong mathematics
8 or science backgrounds have many career opportuni-
9 ties that are more financially attractive than teach-
10 ing. According to the National Science Foundation,
11 recent college graduates in 2001 were offered be-
12 tween \$10,000 and \$20,000 more for their first year
13 in a technical occupation other than teaching.

14 (7) Sophisticated mathematics and science
15 teachers are needed in all classrooms across the Na-
16 tion in order to raise student achievement and ulti-
17 mately help the United States maintain its competi-
18 tiveness in the global economy.

19 (8) Individuals who are strong in mathematics
20 and science need financial incentives, peer men-
21 toring, and professional development for proper re-
22 cruitment and retainment in the field of teaching.

23 (b) PURPOSES.—The purposes of this Act are to—

24 (1) recruit up to 8,000 new, outstanding mathe-
25 matics and science public secondary school teachers

1 each year who might otherwise begin different ca-
 2 reers; and

3 (2) reward up to 8,000 existing and out-
 4 standing mathematics and science public secondary
 5 school teachers each year who might otherwise leave
 6 the teaching profession.

7 **SEC. 3. DEFINITIONS.**

8 In this Act:

9 (1) DIRECTOR.—The term “Director” means
 10 the Director of the Math and Science Teaching
 11 Corps.

12 (2) HARD-TO-STAFF SCHOOL.—The term
 13 “hard-to-staff school” means a public secondary
 14 school that—

15 (A) is served by a local educational agency
 16 (as such term is defined in section 9101 of the
 17 Elementary and Secondary Education Act of
 18 1965 (20 U.S.C. 7801)) for which at least 45
 19 percent of the students enrolled in the schools
 20 served by such agency are eligible for a free or
 21 reduced price lunch under the Richard B. Rus-
 22 sell National School Lunch Act (42 U.S.C.
 23 1751 et seq.); and

24 (B) is determined by the local educational
 25 agency (and confirmed by the Director), to have

1 the greatest difficulty in recruiting and retain-
 2 ing highly qualified teachers (as such term is
 3 defined in section 9101 of the Elementary and
 4 Secondary Education Act of 1965), compared
 5 to all of the schools served by such agency.

6 (3) PARTICIPATING LOCAL EDUCATIONAL AGEN-
 7 CY.—The term “participating local educational agen-
 8 cy” means a local educational agency that has been
 9 certified by the Director as offering an induction
 10 program for individuals receiving fellowships under
 11 this Act that meets adequate standards, including—

12 (A) clustering Math and Science Teaching
 13 Corps Fellows in individual or nearby schools;

14 (B) providing multi-year mentoring and
 15 coaching;

16 (C) offering new teacher seminars on a
 17 monthly basis;

18 (D) reducing the course load for such Fel-
 19 lows, except that a local educational agency
 20 may elect not to comply with this subparagraph
 21 if such agency is obligated by contract require-
 22 ments that prohibit teachers from taking a
 23 smaller course load;

24 (E) allowing time for joint lesson planning
 25 and other constructive collaborative activities;

1 (F) providing professional development op-
 2 portunities for such Fellows and Math and
 3 Science Teaching Corps Master Fellows on con-
 4 tent knowledge and pedagogy; and

5 (G) facilitating relationships between Math
 6 and Science Teaching Corps Fellows and Math
 7 and Science Teaching Corps Master Fellows.

8 (4) PARTNER INSTITUTION.—The term “part-
 9 ner institution” means an institution of higher edu-
 10 cation that has been certified by the Director as
 11 meeting adequate standards for—

12 (A) offering a teacher preparation program
 13 that—

14 (i) is modeled on the Master of Arts
 15 in Teaching program, which provides a
 16 full-time, 1-year course of study leading to
 17 teacher certification and a master’s degree;
 18 and

19 (ii) includes pedagogical courses and a
 20 minimum of 1 semester of student teach-
 21 ing experience;

22 (B) offering a part-time master’s degree
 23 program in mathematics or science education
 24 for teachers who are certified to teach;

1 (C) offering a graduate degree program in
2 mathematics and science;

3 (D) establishing an explicit collaboration
4 between the teacher preparation and mathe-
5 matics and science departments of the institu-
6 tion to provide graduate-level mathematics and
7 science content courses that are appropriate for
8 secondary school teachers; and

9 (E) providing follow-up, classroom-based
10 support for graduates of the program including
11 professional development.

12 (5) STANDARDIZED TEST.—The term “stand-
13 ardized test” means the test required by the Direc-
14 tor of each individual who applies for a fellowship
15 under this Act that evaluates each individual’s math-
16 ematics or science subject area knowledge. The
17 science subject area tests shall include a section to
18 assess mathematics skills appropriate to each sub-
19 ject. The standardized tests shall be approved and
20 reviewed periodically by the National Academy of
21 Sciences to ensure that the tests meet rigorous
22 standards and remain appropriate for the intended
23 use, and cut-off scores shall be set at the national
24 level.

1 **SEC. 4. ESTABLISHMENT OF THE MATH AND SCIENCE**
2 **TEACHING CORPS.**

3 Title II of the Department of Education Organization
4 Act (20 U.S.C. 3411 et seq.) is amended by adding at
5 the end the following:

6 **“SEC. 221. MATH AND SCIENCE TEACHING CORPS.**

7 “(a) IN GENERAL.—There shall be in the Depart-
8 ment a Math and Science Teaching Corps to be adminis-
9 tered by the Director of the Math and Science Teaching
10 Corps in accordance with the Mathematics and Science
11 Teaching Corps Act of 2006.

12 “(b) DIRECTOR.—The Director of the Math and
13 Science Teaching Corps shall—

14 “(1) administer the Math and Science Teaching
15 Corps program established under the Mathematics
16 and Science Teaching Corps Act of 2006; and

17 “(2) report directly to the Secretary and shall
18 perform such additional functions as the Secretary
19 may prescribe.

20 “(c) PURPOSE.—The Math and Science Teaching
21 Corps is established in order to significantly improve
22 mathematics and science achievement among secondary
23 school students in the United States by ensuring that such
24 students are taught by well-prepared mathematics and
25 science teachers with superior subject area knowledge.”.

1 **SEC. 5. MATH AND SCIENCE TEACHING CORPS FELLOW-**
2 **SHIPS FOR PROSPECTIVE TEACHERS.**

3 (a) ESTABLISHMENT.—The Director shall carry out
4 a program through which the Director awards—

5 (1) Math and Science Teaching Corps Fellow-
6 ships for Prospective Teachers (referred to in this
7 part as “MSTC Fellowships”) to eligible individuals;

8 (2) grants to partner institutions to pay the tui-
9 tion and fees and overhead costs at such institutions
10 of individuals receiving MSTC Fellowships under
11 this section; and

12 (3) grants to participating local educational
13 agencies to pay the costs of the activities described
14 in subsection (e)(4).

15 (b) DEFINITION OF ELIGIBLE INDIVIDUAL.—In this
16 section, the term “eligible individual” means an individual
17 who—

18 (1) is a recent college graduate or a mid-career
19 professional outside of the teaching field; and

20 (2) possesses a strong content area knowledge,
21 including a baccalaureate (or higher) degree in
22 mathematics, science, engineering, technology, or a
23 related field.

24 (c) APPLICATION.—An individual, partner institu-
25 tion, or participating local educational agency that desires
26 to receive a MSTC Fellowship or grant, as applicable,

1 under this section shall submit an application to the Direc-
2 tor at such time, in such manner, and accompanied by
3 such information as the Director may require.

4 (d) RECRUITMENT AND SELECTION OF INDIVIDUALS
5 FOR MSTC FELLOWSHIPS.—

6 (1) RECRUITMENT.—The Director shall recruit
7 eligible individuals for the MSTC Fellowships.

8 (2) SELECTION.—The Director shall establish
9 criteria to ensure that—

10 (A) individuals who receive MSTC Fellow-
11 ships under this section possess—

12 (i) a comprehensive knowledge of the
13 subject area to be taught as evidenced by
14 performing at a satisfactory level on a
15 standardized test;

16 (ii) strong verbal and communication
17 skills; and

18 (iii) other attributes that are linked to
19 effective teaching; and

20 (B) not less than 30 percent of individuals
21 selected to receive MSTC Fellowships will teach
22 in hard-to-staff schools.

23 (e) ACTIVITIES.—

24 (1) IN GENERAL.—An individual who receives a
25 MSTC Fellowship under this section shall—

1 (A) receive pedagogical training as de-
 2 scribed in paragraph (2); and

3 (B) for 4 years, within a 7-year period of
 4 first receiving the Fellowship, teach mathe-
 5 matics or science in a secondary school, as de-
 6 scribed in paragraph (3).

7 (2) PEDAGOGICAL TRAINING.—

8 (A) IN GENERAL.—An individual who re-
 9 ceives a MSTC Fellowship under this section
 10 shall—

11 (i) if the individual is not certified to
 12 teach—

13 (I) attend, during the first year
 14 of the MSTC Fellowship, a 1-year,
 15 full-time graduate education program
 16 of a partner institution that receives a
 17 grant under this section; and

18 (II) receive, during that 1 year, a
 19 stipend that is in an amount that is
 20 equal to the Graduate Research Fel-
 21 lowship stipend awarded by the Na-
 22 tional Science Foundation; or

23 (ii) if the individual holds appropriate
 24 teacher certification credentials when
 25 granted the MSTC Fellowship, then during

any of the 4 years of the MSTC Fellowship—

(I) attend a part-time graduate education program leading to a master's degree in mathematics or science education; or

(II) enroll at an institution of higher education in not more than 24 credit hours of courses in mathematics, science, or education.

(B) GRANTS TO PARTNER INSTITUTIONS.—A partner institution that receives a grant under this section—

(i) shall use the grant funds to pay the tuition and fees at such institution of individuals receiving MSTC Fellowships under this section; and

(ii) may use not more than 10 percent of the grant funds for overhead costs incurred by the partner institution in administering the grant.

(3) TEACHING, PROFESSIONAL DEVELOPMENT, AND MENTOR TRAINING.—An individual who receives a MSTC Fellowship under this section shall—

1 (A) for 4 years, teach mathematics or
 2 science in a public secondary school served by
 3 a participating local educational agency;

4 (B) for such 4 years, participate in induc-
 5 tion and professional development programs of-
 6 fered by the participating local educational
 7 agency;

8 (C) perform additional duties as follows:

9 (i) for the first two years of teaching,
 10 participate in 60 hours each year of addi-
 11 tional high quality professional develop-
 12 ment by attending approved institutes,
 13 seminars, or conferences on their subject
 14 matter area or on pedagogy, held on week-
 15 ends or during the summer break;

16 (ii) during the third year of teaching,
 17 attend 60 hours of approved mentoring
 18 training during the academic year or sum-
 19 mer;

20 (iii) during the fourth year of teach-
 21 ing, provide 60 hours of mentoring or
 22 other training/coaching for teachers in
 23 their school;

24 (D) for such 4 years, receive a stipend that
 25 is equal to—

1 (i) for the first year of teaching de-
 2 scribed in subparagraph (A), \$11,000;

3 (ii) for the second year of teaching de-
 4 scribed in subparagraph (A), \$14,000;

5 (iii) for the third year of teaching de-
 6 scribed in subparagraph (A), \$17,000; and

7 (iv) for the fourth year of teaching de-
 8 scribed in subparagraph (A), \$20,000; and

9 (E) if the school in which the individual is
 10 teaching is a hard-to-staff school, for each year
 11 of teaching described in subparagraph (A), re-
 12 ceive a bonus stipend in addition to the stipend
 13 described in subparagraph (D), that is equal to
 14 50 percent of the stipend described in subpara-
 15 graph (D) for that year.

16 (4) GRANTS TO PARTICIPATING LOCAL EDU-
 17 CATIONAL AGENCIES.—A participating local edu-
 18 cational agency that receives a grant under this sec-
 19 tion—

20 (A) shall use the grant funds to pay the
 21 expenses associated with facilitating the induc-
 22 tion and professional development services for
 23 individuals receiving fellowships under this Act;
 24 and

1 (B) may not reduce the salary of an indi-
2 vidual who receives a MSTC Fellowship under
3 this section and is employed in a secondary
4 school served by such agency below the salary
5 normally paid for an individual with a similar
6 background and experience solely because such
7 individual receives a stipend under this Act.

8 (f) REPORTS.—

9 (1) IN GENERAL.—Not later than 3 years after
10 the date of enactment of this Act, the Director shall
11 submit a report to Congress that evaluates the effec-
12 tiveness of the program under this section.

13 (2) SUBSEQUENT REPORTS.—The Director
14 shall submit an updated report every 5 years after
15 the date the first report is submitted under para-
16 graph (1).

17 (g) REPAYMENT.—In the event that an individual re-
18 ceiving a MSTC Fellowship under this section does not
19 complete the activities described in subsection (e), the Di-
20 rector shall require repayment of the stipends granted to
21 the individual under this section according to the regula-
22 tions established by the Math and Science Teaching
23 Corps, except that the Director may, in the case of the
24 death or permanent and total disability of the individual,

1 or other crisis situation, forgive such obligation to repay
 2 in whole or in part.

3 (h) AUTHORIZATION OF APPROPRIATIONS.—There
 4 are authorized to be appropriated to carry out this section,
 5 \$137,000,000 for fiscal year 2007, \$410,000,000 for fis-
 6 cal year 2008, \$683,000,000 for fiscal year 2009,
 7 \$956,000,000 for fiscal year 2010, and \$1,092,000,000
 8 for fiscal year 2011.

9 **SEC. 6. MATH AND SCIENCE TEACHING CORPS FELLOW-**
 10 **SHIPS FOR EXPERIENCED TEACHERS.**

11 (a) ESTABLISHMENT.—The Director shall carry out
 12 a program in which the Director awards Math and Science
 13 Teaching Corps Fellowships for Experienced Teachers (re-
 14 ferred to in this part as “MSTC Master Fellowships”) to
 15 eligible individuals.

16 (b) ELIGIBLE INDIVIDUAL.—In this section, the term
 17 “eligible individual” means an individual who—

18 (1) has been teaching mathematics or science in
 19 a public secondary school for not less than 3 years;

20 (2) possessed certification in the field and level
 21 in which the individual primarily taught during the
 22 3 years preceding the year for which the determina-
 23 tion is made; and

1 (3) is employed as a full-time, secondary mathe-
 2 matics, or science teacher in a participating local
 3 educational agency.

4 (c) APPLICATIONS.—An eligible individual who de-
 5 sires to receive a MSTC Master Fellowship under this sec-
 6 tion shall submit an application to the Director at such
 7 time, in such manner, and accompanied by such informa-
 8 tion as the Director may require.

9 (d) RECRUITMENT AND SELECTION OF MSTC MAS-
 10 TER FELLOWS.—

11 (1) RECRUITMENT.—The Director shall recruit
 12 eligible individuals for MSTC Master Fellowships.

13 (2) SELECTION.—The Director shall establish
 14 criteria to ensure that—

15 (A) individuals who receive MSTC Master
 16 Fellowships under this section—

17 (i) demonstrate expertise in mathe-
 18 matics or science content by taking a
 19 standardized test;

20 (ii) demonstrate mastery of mathe-
 21 matics or science pedagogy and have a
 22 strong record of positively affecting aca-
 23 demic achievement, as demonstrated by ob-
 24 servations from supervisors, student data

1 (as available), or other information as de-
 2 termined by the Director; and

3 (iii) demonstrate other attributes that
 4 are linked to effective teaching; and

5 (B) not less than 30 percent of individuals
 6 selected to receive MSTC Master Fellowships
 7 will teach in hard-to-staff schools.

8 (e) ACTIVITIES.—An eligible individual who receives
 9 a MSTC Master Fellowship under this section shall—

10 (1) continue to teach mathematics or science in
 11 a public secondary school in a participating local
 12 educational agency for not less than an additional 5
 13 years during the subsequent 7 years after receiving
 14 such a MSTC Master Fellowship under this section;

15 (2) serve as a leader and mentor within the in-
 16 dividual's department and school;

17 (3) receive a stipend of \$20,000 for each year
 18 the eligible individual continues to teach, as de-
 19 scribed in paragraph (1), but not for more than 5
 20 years;

21 (4) attend lectures, seminars, or workshops on
 22 content area knowledge or pedagogy provided or ap-
 23 proved by the participating local educational agency
 24 that employs such eligible individual; and

1 (5) if the school in which the individual is
2 teaching is a hard-to-staff school, receive a bonus
3 stipend of \$10,000, in addition to the stipend de-
4 scribed in paragraph (3), for each year the indi-
5 vidual continues to teach as described in paragraph
6 (1), but not for more than 5 years.

7 (f) RENEWAL OF MSTC MASTER FELLOWSHIPS.—
8 An individual who has received a MSTC Fellowship or
9 MSTC Master Fellowships and has completed the require-
10 ments associated with such fellowship may re-apply for a
11 MSTC Master Fellowship (or apply for a MSTC Master
12 Fellowship in the case of an individual who has received
13 a MSTC Fellowship) if such individual is an eligible indi-
14 vidual under this section.

15 (g) REPAYMENT.—In the event that an individual re-
16 ceiving a MSTC Master Fellowship under this section does
17 not complete the activities described in subsection (e), the
18 Director shall require repayment of the stipends granted
19 to the individual under this section according to the regu-
20 lations established by the Math and Science Teaching
21 Corps, except that the Director may, in the case of the
22 death or permanent and total disability of the individual,
23 or other crisis situation, forgive such obligation to repay
24 in whole or in part.

25 (h) REPORTS.—

1 (1) IN GENERAL.—Not later than 3 years after
2 the date of enactment of this Act, the Director shall
3 submit a report to Congress that evaluates the effec-
4 tiveness of the program under this section.

5 (2) SUBSEQUENT REPORTS.—The Director
6 shall submit an updated report every 5 years after
7 the date the first report is submitted under para-
8 graph (1).

9 (i) AUTHORIZATION OF APPROPRIATIONS.—There
10 are authorized to be appropriated to carry out this section,
11 \$100,000,000 for fiscal year 2007, \$300,000,000 for fis-
12 cal year 2008, \$500,000,000 for fiscal year 2009,
13 \$700,000,000 for fiscal year 2010, and \$800,000,000 for
14 fiscal year 2011.

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